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Spectral distortions of astrophysical blackbodies as axion probes

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Recent studies reveal that more than a dozen of white dwarfs displaying near-perfect blackbody spectra in the optical range have been lurking in the Sloan Digital Sky Survey catalog. We point out that, in a way analogous to the Cosmic Microwave Background, these stars serve as excellent testbeds for new physics. Specifically, we show how their observed lack of spectral distortions translate into limits on the parameter space of axions with electromagnetic coupling.

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